Western Elevator Company
541 North Appleton Street
Appleton
Outagamie County
Wisconsin

HAER No. WI-62 HAER WIS 44-APPL, 2-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORI AMERICAN ENGINEERING RECORD
Rocky Mountain Regional Office
National Park Service
U.S. Department of the Interior
P.O. Box 25287
Denver, Colorado 80225

HISTORIC AMERICAN ENGINEERING RECORD

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WIS
44-APPL,
2-

The Western Elevator Company

HAER No. WI-62

Location: 541 North Appleton Street
Appleton, Outagamie County, Wisconsin

UTM: Zone 16 Easting 387680 Northing 4902140
Quad: Appleton

Date of Construction: 1901

Present Owner: City of Appleton

Present Occupation: Vacant

Significance: The Western Elevator Company embodies the distinctive characteristics of the "crib" period of storage elevator construction, and retains mucb of its original operating mechanism. It is also the single remaining example of this unique type of architecture and construction in a city that was the center of Outagamie County's once-thriving wheat industry.

PART I. HISTORICAL INFORMATION

A. Pbysical History:

1. Date of Erection: 1901[1]

2. Original and subsequent owners:

   1901 Holbrook & Balliet Grain[2]

   1903 Holbrook & Company[3]

   1909 Northern Grain Company[4]

   1911 Western Elevator Company[5]

3. Alterations and additions: This building has cbanged little over its life. The original wagon unloading mecbanism and dumping pits were eliminated when a new auger system adapted to grain delivery by trucks was installed in the basement. Additionally, grain milling machinery was installed in the 1920s.

B. Historical Context:

Appleton's history dates back to the 1840s when the State of Wisconsin chartered Lawrence College.[6] The community's first house was built in 1849, its first saw mill was huilt in 1850 and the first grist mill in 1853.[7] Industrial growth in Appleton focused on the Fox river. In 1852, the Appleton Water Power Company was charted to facilitate "manufacturing and milling [on the Fox] and could own and construct dams, canals, reservoirs, waterways, flumes or races...."[8] By the summer of 1853, Appleton had four saw mills and one paper mill. The community was also incorporated as a village in 1853.[9] Appleton's industrial hase grew to include sawmills, tanneries, flour mills, furniture/chair factories and spoke factories hy the 1860s.[10] As a result of its location on the Lower Fox River, as well as railroad connections, Appleton, which was incorporated as a city in 1857,[11] hecame a major trade and manufacturing center.

Appleton also hecame a major support center for Outagamie County farmers. According to Cultural Resource Management in Wisconsin, the state's wheat industry developed during the middle of the nineteenth century. It is apparent that Outagamie County was one of those counties in which wheat was grown early, since there were four flour mills in the village by 1855.[12] Outagamie County's wheat production grew from 81,473 bushels in 1850 to 550,000 hushels in 1879,[13] and farmers from 20 miles a way usually hrought that wheat to Appleton hecause they knew that the city's dealers paid cash.[14]

Soil exhaustion led to a decline in wheat yields after 1880.[15] Despite the diminishing production, facilities were erected to service the industry that remained. One such facility was the Holbrook and Balliet elevator. It was huilt on the triangular corner of Appleton Street, Bates Street and the Chicago & Northwestern Railroad tracks between 1891 and 1895.[16] Hoping to fireproof it, the Holbrook and Balliet elevator was sheathed with corrugated iron. It had a capacity of 50,000 hushels and burned down in 1901.[17]

Holhrook and Balliet replaced the structure in 1901[18] with the elevator now known as the Western Elevator. It had a 70,000 hushel capacity, and its lights and machinery were operated hy electricity.[19] Holhrook and Balliet, and a successor firm, Holbrook Grain, retained ownership of the elevator until about 1908,[20] when the Northern Grain Company, a Manitowoc firm, bought it.[21] H. Servaes was identified as its manager and dealer at that time.[22] Northern Grain subsequently changed its name to the Western Elevator Company, thus the suhject facility was known as the western Elevator Company hy 1911.[23] In 1921, Henry Servaes was still associated with the company, but he had been joined hy John Goodland, Jr.,[24] A city directory advertisement that year advised that they bought and sold, wholesale as well as retail, grains, feeds, flour, seeds, stock feeds, poultry feeds, remedies and supplies. The elevator was sold to John M. and Ray M. Peters by 1925, and they retained ownership until 1943.[25] George M. Paltzer was identified as the manager throughout the 1940s. Sometime in that period, the Western Elevator Company incorporated, hecause John Goodland, Jr., who was associated with the elevator in 1921, was identified as the company president in 1949. Matt Paltzer was vice president, R. W. Ebben was the secretary and George B. Paltzer was the treasurer and manager.[26]

The operating system of the Western Elevator was very simple. Wagons backed into the elevator building. They were then secured in a fashion that allowed them to be dumped, the grain itself going into pits located in the basement floor. *(HAER Photograph No. WI-62-15 illustrates one of the remaining gears in the dumping mechanism.)* The grain was then raised to the height of the elevator by the "leg," a vertical conveyor of buckets. *(HAER Photograph No. WI-62-10 illustrates the low point of the "leg," while HAER Photograph No. WI-62-11 is a view of the buckets.)* Once the grained reached the "headhouse," the highest point of the elevator, it was discharged into a chute *(see HAER No. WI-62-12)* which then directed it into whichever one of the fourteen cribs the operator desired. *(See HAER Photograph No. WI-62-13 for a view of the crib.)* The grain was then discharged from the cribs into railroad cars through another chute. *(The discharge chute is seen in the lower left-hand corner of HAER Photograph No. WI-62-2.)* A new delivery tunnel was installed on the south-southeast side of the elevator at some point, and replaced the original wagon dumping system *(see HAER Photograph No. WI-62-8).* The grain discharged into the funnel was then carried by a slightly inclined horizontal auger *(see HAER No. WI-62-10)* to the "leg."

The elevator, which at some time also began milling grain (possible as early as 1911),[27] continued to operate until the early 1980s when bulk access to the structure was eliminated by local street improvements.

The evolution of storage elevator construction has been chronicled by historian Robert M. Frame, III. Briefly, Frame identifies three periods in grain storage architecture. The first period utilized a one-story structure, sometimes called a "flathouse," in which bagged grain was stored. Frame suggests that any capability this early type of structure had for retaining bulk grain was limited by the weight of the grain and the structure's inability to withstand the corresponding pressure.[28]

The second period is characterized by the wood cribbed elevator. This design utilized 2 by 8s and 2 by 10s, which were laid flat and spiked one on top of the other, which as Frame indicated, formed "strong, pressure-resistant bins."[29] This type of elevator was developed in the 1860s and 1870s. Because of the height that these elevators reached, a new system had to be developed that raised the grain to the level of the cribs. Oliver Evans was responsible for that system which consisted of small buckets attached to a belt.[30] Operating vertically, grain could be discharged by wagons into an elevator's lower level, the bucket/conveyor would scoop the grain up, lift it the height of the structure in a shaft called the "leg," then discharge it into chutes from the top of the elevator known as the "headhouse." Those chutes would direct the grain into any one of a number of cribs.

Fire was a major concern for grain elevators, and various materials other than wood were experimented with during the last part of the 19th century. These included steel, brick and hollow tile.[31]

The third type of elevator was developed near Minneapolis in 1899. It was a cylindrical, concrete tank, and became the model upon which virtually all modern concrete elevators were patterned.[32]

Grain elevators are a recognizable resource in both the milling and agricultural industries. Additionally, Frame definitely establishes a chronology and typology within which elevators can be placed and evaluated. The Western Elevator, despite its construction in 1901, clearly represents the second stage in elevator construction. It has a wooden superstructure *(see HAER Photographs No. WI-62-16 and WI-62-17)* cribbed construction *(see HAER Photographs No. WI-62-18 and WI-62-13),* a vertical bucket/conveyor lifting mechanism housed in "legs" *(see HAER Photograph No. WI-62-11),* and shoot discharge system from the "headhouse" into any one of the fourteen cribs *(see HAER Photograph No. WI-62-12).* It is significant as Appleton's only example of this unique type of construction and architecture.

PART II. ARCHITECTURAL INFORMATION

A. General Statement:

1. Architectural character: Built in 1901, the Western Elevator is located adjacent to a former Chicago and Northwestern Railroad spur. The building is massive and of larger proportion than the buildings in the residential neighborhood to the north. Although a large retirement home is located immediately east of the elevator, it still imposes a very commanding presence over the area.

2. Condition of fabric: Fair (to be demolished)

3. Summary Description: Rising from a fieldstone and brick foundation, the structure is divided into two distinct portions. The first is oriented on an east-west axis, reaches a height of 85 feet and contains 14 grain storage bins. It has a gabled roof, each gable containing a small diamond-shaped window. Straddling the roof is a gabled headhouse which has one four-over-four light, double hung sash windows in each end wall and two small, four light windows in each of the remaining two walls. The second portion projects to the south, and is perpendicular to the orientation of the first. It reaches a height of 44 feet (two stories), and has a hipped roof with an elongated cupola which also has a hipped roof. Irregularly placed windows are located on the east side of the first floor. This is where the office is located. A shed roof porch covers a loading platform on the west-southwest side of the building.

   The entire structure was originally sheathed with narrow horizontal siding. That siding is still visible on the north wall *(see HAER Photograph No. WI-62-4).* The balance of the structure, however, has been resheathed. The headhouse, the exposed south wall on the 85-foot portion, the south wall of the two-story portion, and the cupola on the two-story structure all now have tin siding. The east wall of the entire structure and the west

-southwest wall of the entire structure both bave sbingle sheathing. It is likely that the narrow clapboard siding remains on the entire building, since it is clearly visible wbere the tin siding is peeling away.

The interior has undergone very little modification. The original wagon unloading mechanism and dumping pits were eliminated when a new auger system was installed in the basement. The first floor, however, bas been cbanged little. Machines were installed (most of wbicb bave now been removed) when milling activity began and the original door that wagons entered for unloading was boarded over. The storage bins themselves are cribbed, that is, they are built of courses of 2 by 8s or 2 by 10s, laid flat and nailed together. The original bucket conveyers and elevator legs are all in place. The building's structural support system is timber. The crib, conveyer and structural system are all typical of late 19th century elevator technology.

Today, the elevator sits empty. Removal of the railroad side track and construction of a new street in the early 1890s eliminated its grain intake and discharge capability, thus the facility was closed. It is located in a blight elimination area and is to be demolished.

B. Description of Exterior:

1. Overall dimensions: This quadrilateral structure is 62 feet 6 inches (east wall) by 36 feet 10 incbes (south wall) by 87 feet 3 inches (west wall) by approximately 60 feet (north wall).[33]

2. Foundation: The bottom two feet of the foundation is stone, while the remainder is brick. It is 21 inches thick.

3. Structural system: The building is carried by a timber frame comprised of 12-inch by 12-inch members.

4. Porches: A 31-foot 6-inch by 52-inch dock is located on the west side of the structure. It is covered by a shed roof supported by four brackets.

5. Openings:

   a. Doorways and doors: The pedestrian door that facilitates entrance to the office measures 80 inches by 36 inches. A utility door on the south side of the building is 95 inches high by 72 incbes wide. Finally, there are two doors that open onto the dock. One measures 80 inches by 66.5 inches, while the other is 79.5 inches by 42 incbes.

   b. Windows: The elevator generally has very few windows. Typical of those, however, is a paired unit found in the office. Each unit measures 70 inches by 29 inches, and is a four-over-one, double hung sash window.

6. Roof: The tallest portion of the elevator, and the "headhouse" thereon both bave gabled roofs. The lower part of the structure, as well as the small cupola that crowns it, bas a hipped roof. All roofs are sheathed with asphalt shingles.

C. Description of the Interior:

1. Floor Plans:

a. Basement: The basement is comprised of four rooms. The largest of an "L" shaped room that contains the auger and drive mechanism for the "legs," as well as the dumping mechanism used to unload early wagons. This room also contained the two pits into which the grain from those wagons was dumped. The three remaining rooms are small store rooms.

b. First floor: The office portion of the first floor is comprised of the general office area, where customers conducted their business, and a small ante room. These are located in the southeast corner of the building. The remainder of the first floor is open and contains numerous structural members, grain chutes, and a few remaining pieces of milling macbinery.

c. Second floor: Only one portion of the building contains a second floor, and that is the south half. This room was originally undivided and used for bulk grain storage. It is still open, although a bin used in the milling operation is located in the northwest corner.

d. Headhouse: This small room atop the elevator contains the chute that directs the grain from the "legs" to wbichever of the fourteen cribs the operator wanted it in.

2. Stairways: There are three stairways in the Western Elevator. The first provides straight descent into the basement. It has ten 9-inch by 23.5-inch steps. The second provides straight ascent into the second floor grain storeroom. It has fourteen steps that measure 8 inches by 26.5 inches. The final stairway provides access to the "headhouse." It utilizes thirteen flights of steps, each of which measures 7.5 inches by 20.5 inches.

3. Flooring: The basement has a poured concrete floor. The floor in the first floor offices is tiled, wbile the remainder throughout the structure is hardwood.

4. Wall and ceiling finishes: The wall and the ceiling are not finished.

5. Openings/doorways: The door that facilitates movement from the office to the shop area, as well as the door from the office to the ante office, is 80 inches by 32 inches.

6. Existing machinery: With the exception of the slightly inclined horizontal auger, the "leg," the "leg" discharge chute, the grain mixing area for the feed milling operation, and some milling related storage bins, the machinery in the elevator has been largely removed.

D. Site:

The Western Grain Elevator Company is located on an irregularly shaped lot, bounded on three sides by Packard Avenue to the south, Appleton Avenue to the east and Bates Street to the west-southwest. The site is approximately four blocks north of downtown. A railroad right-of-way is immediately to the south and a residential neighborhood is directly to the north.

PART III. FOOTNOTES

1. Appleton, Sanborn Fire Insurance May (New York: Sanborn Map Company, 1924).

2. Polk's Wisconsin State Gazetteer and Business Directory, 1901-1902 (Chicago: R. L. Polk, 1901), 150.

3. Polk's Wisconsin State Gazetteer and Business Directory, 1903-1904 (Chicago: R. L. Polk, 1903), 154.

4. R. L. Polk's Wisconsin State Gazetteer and Business Directory, 1909-1910 (Chicago: R. L. Polk, 1909), 152.

5. Appleton, Sanborn Fire Insurance Mays (New York: Sanborn Map Company, 1911). The Northern Grain Company changed its name to the Western Elevator Company around 1909 or 1910. Polk's Gazetteer and Business Directory, 1909-1910, 150, 152, 583, 1120.

6. Thomas H. Ryan, ed., History of Outagamie County, Wisconsin (Chicago: Goodspeed Historical Association, n.d.), 138.

7. Ibid., 142.

8. Ibid., 143.

9. Ibid., 143.

10. Ibid., 188-190.

11. This is Appleton (Appleton: n.d.), 6.

12. Ryan, Outagamie County, 157.

13. J. F. Magnus, "Tiller of the Soil," in In Land of the Fox: Saga of Outagamie County, edited by Gordon A. Bubholz (Appleton: Outagamie County State Centennial Committee, Inc., 1948), 129.

14. Ryan, Outagamie County, 156. In addition to four mills, it is presumed that facilities in which to store the wheat were also built during this period. Virtually no references to those other facilities, however, were found. Shipping wheat and flour from Appleton was facilitated by connections with the Chicago & Northwestern and Soo Line railroads. Little else was found about the significance of grain storage and milling in Appleton.

15. Wheat experienced a resurgence as a result of the demand for foodstuffs during World War I. Magnus, "Tillers," 129.

16. Appleton, Sanborn Fire Insurance Maps (New York: Sanborn Map Company, 1891); Appleton, Sanborn Fire Insurance Maps (New York: Sanborn Map Company, 1895). The location adjacent to the tracks was important because grain stored in the elevator could then be discharged directly into rail cars for shipment. Please note that no sources were located that discussed regional transportation system development and its effect on the Western Elevator specifically, or Appleton elevators in general.

17. Appleton, Sanborn, 1895; Pat Baenen, OAHP Inventory, State Historical Society of Wisconsin, Madison, Wisconsin.

18. Appleton, Sanborn Fire Insurance Map (New York: Sanborn Map Company, 1924); Polk's Gazetteer and Business Directory, 1903-1904, 154.

19. Appleton, Sanborn Fire Insurance Maps (New York: Sanborn Map Company, 1911).

20. R. L. Polk and Company's Wisconsin State Gazetteer and Business Directory, 1907-1908 (Chicago: R. L. Polk, 1907), 174; Polk's Gazetteer and Business Directory, 1909-1910, 150, 152.

21. Polk's Gazetteer and Business Directory, 1903-1904, 1032; Polk's Gazetteer and Business Directory, 1909-1910, 152. Note that no biographical material was located on the various owners and operators.

22. Bunn's Directory of Outagamie, Wisconsin (Oshkosh, WI: John W. Bunn, 1908), 227, 323.

23. Polk's Gazetteer and Business Directory, 1907-1908, 584; Polk's Gazetteer and Business Directory, 1909-1910, 583; Appleton, Sanborn Fire Insurance Maps (New York: Sanborn Map Company, 1911).

24. Wright's Appleton City Directory (Milwaukee: Wright Directory company, 1921), 388.

25. Wright's Appleton City Directory (Milwaukee: Wright Directory Company Publishing, 1925), 428; Appleton Community Directory (Manitowoc: Johnson Publishing Company, 1943), 616.

26. Appleton Community Directory (Manitowoc: Johnson Publishing Company, 1949), 702. No biographical information was available for any of these men.

27. Appleton, Sanborn Fire Insurance Map, 1911. This map identifies the structure as having feed mill machinery.

28. Robert M. Frame, III, "Grain Storage and the Development of the Elevator," in A Guide to the Industrial Archeology of the Twin Cities, edited by Nicholas Westbrook (St. Paul: Minnesota Historical Society, 1983), 63.

29. Ibid.

30. Ibid.

31. Ibid.

32. Ibid.

33. North wall is a common wall with the building to the north. An exact measurement was, therefore, unattainable. The 60-foot figure used has been scaled off a Sanborn Fire Insurance Map.

PART IV. SOURCES OF INFORMATION

A. Bibliography:

1. Primary and unpublished sources: None

2. Secondary and published sources:

Appleton Community Directory. Manitowoc, WI: Johnson Publishing Company, 1943 -1949.

Baenen, Pat. Western Elevator-OAHP Inventory. State Historical Society of Wisconsin, Madison, Wisconsin.

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Polk's Wisconsin State Gazetteer and Business Directory, 1924-1925. Chicago: R. L. Polk, 1924.

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PART V. PROJECT INFORMATION

This project was sponsored by the city of Appleton. The elevator is located in a blight area, and the city wants to remove it. This project evolved out of the city's needs to comply with Section 106 of the 1986 National Historic Preservation Act. It was undertaken hy John N. Vogel, a consulting historian, who provided the photographic work, the historical data, and the architectural data. Mr. Vogel was assisted in this endeavor by David Keene, an instructor at Loyola University in Chicago.

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August 23, 1989